

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:
J. PHILIP POLSTER
12412 POWERSCOURT DRIVE
ST. LOUIS, MO 63131-3615

**POLSTER, LIEDER,
WOODRUFF & LUCCHESI**

OCT 14 2005

RECEIVED

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

| | |
|--|--|
| Applicant's or agent's file reference COOT 8682WO | Date of Mailing (day/month/year) |
| International application No. PCT/US04/22262 | International filing date (day/month/year) 12 July 2004 (12.07.2004) |
| Applicant COOMBS, TIMOTHY S | |

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34, chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90 bis.1 and 90 bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

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|--|--|
| Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/ US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 | Authorized officer John J Calvert Telephone No. (703) 308-1111 <i>Sheila H. Venev</i> Patent Specialist Tech. Center 3700 |
|--|--|

Form PCT/ISA/220 (April 2002)

Action: Art. 19 Amendments
Due Date: 12-11-05
Docket Entry Date: 10/14/05
Docketed By: mc
Reviewed By: _____

(See notes on accompanying sheet)

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To:
J. PHILIP POLSTER
12412 POWERSCOURT DRIVE
ST. LOUIS, MO 63131-3615

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NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

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| Applicant's or agent's file reference COOT 8682WO | Date of Mailing (day/month/year) 11 OCT 2005 |
| International application No. PCT/US04/22262 | International filing date (day/month/year) 12 July 2004 (12.07.2004) |
| Applicant COOMBS, TIMOTHY S | |

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Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

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See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

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|---|--|
| Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 | Authorized officer John J Calvert Telephone No. (703) 308-1111 <div style="text-align: right;">  Sheila H. Venev <i>Paralegal Specialist</i> Tech. Center 3700 </div> |
|---|--|

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| | | |
|--|---|---|
| Applicant's or agent's file reference COOT 8682WO | FOR FURTHER ACTION | see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. |
| International application No. PCT/US04/22262 | International filing date (day/month/year) 12 July 2004 (12.07.2004) | (Earliest) Priority Date (day/month/year) 10 July 2003 (10.07.2003) |
| Applicant COOMBS, TIMOTHY S | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 4



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/22262

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : D02G 03/02
US CL : 57/210-235

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 57/210-235

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST: Derwent, EPO, JPO, IBM, PGPub

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-------------|---|---|
| X — Y | US 5,735,110 A (Kruger et al) 07 April 1998 (07.04.1998), Column 3 lines 44-46, 55-62; Column 4 lines 1-2, 36-41 | 1-27, 29, 40-41, 45-48 ----- 28, 30-39, 42-44 |
| Y | US 4,614,081 A (Kim) 30 September 1986 (30.09.1986), Figure 1 | 28, 30-39, 42-44 |
| A | US 4,914,902 A (Keefe, Jr.) 10 April 1990 (10.04.1990), entire document | 1-48 |
| A | US 5,768,875 A (Bergen) 23 June 1998 (23.06.1998), entire document | 1-48 |

☐

Further documents are listed in the continuation of Box C.

☐

See patent family annex.

| | |
|---|--|
| * Special categories of cited documents: | |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "E" earlier application or patent published on or after the international filing date | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" document referring to an oral disclosure, use, exhibition or other means | "&" document member of the same patent family |
| "P" document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search

26 August 2005 (26.08.2005)

Date of mailing of the international search report

17 OCT 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

John J Calvert

Telephone No. (703) 308-1148

Sheila H. Veney
Paralegal Specialist
Tech. Center 3700

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
J. PHILIP POLSTER
12412 POWERSCOURT DRIVE
ST. LOUIS, MO 63131-3615

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

| | | | |
|---|--|---|--|
| Applicant's or agent's file reference COOT 8682WO | | Date of mailing (day/month/year) 11 OCT 2005 FOR FURTHER ACTION See paragraph 2 below | |
| International application No. | International filing date (day/month/year) | Priority date (day/month/year) | |
| PCT/US04/22262 | 12 July 2004 (12.07.2004) | 10 July 2003 (10.07.2003) | |
| International Patent Classification (IPC) or both national classification and IPC | | | |
| IPC(7): D02G 03/02 and US Cl.: 57/210 | | | |
| Applicant | | | |
| COOMBS, TIMOTHY S | | | |

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

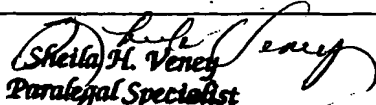
2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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| Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 | Authorized officer John J Calvert Telephone No. (703) 308-1148 <div style="text-align: right;">  Sheila H. Veney Paralegal Specialist Tech. Center 3700 </div> |
|--|--|

Form PCT/ISA/237 (cover sheet) (January 2004)

| | |
|--------------------|--------------------|
| Action: | Art. 34 Amendments |
| Due Date: | 1-11-06 |
| Docket Entry Date: | 10/14/05 |
| Docketed By: | mc |
| Reviewed By: | |

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/22262

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/22262

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|---------------------------------------|-----|
| Novelty (N) | Claims <u>28, 30-39, 42-44</u> | YES |
| | Claims <u>1-27, 29, 40, 41, 45-48</u> | NO |
| Inventive step (IS) | Claims <u>NONE</u> | YES |
| | Claims <u>1-48</u> | NO |
| Industrial applicability (IA) | Claims <u>1-48</u> | YES |
| | Claims <u>NONE</u> | NO |

2. Citations and explanations:

Claims 1-27, 29, 40, 41, and 45-48 lack novelty under PCT Article 33(2) as being anticipated by Kruger et al (5735110).

Kruger teaches comprising a PET core and a synthetic sheath, the sheath, wherein the core comprises about 30% of the total weight of the yarn. Kruger also teaches that the sheath can be one of several forms, including either fiber or filament, which would also provide for either helically wrapped or fiber sheathed. In regards to the core being recycled plastic material, the claims are considered product by process, and as such, such a recitation provides no structural limitation since the ordinarily skilled artisan would not be able to determine the difference between recycled and regular when the yarn is formed. Since this is a product claim, and there is no patentable difference between recycled and normal fiber, the prior anticipates it.

Claims 28, 30-39, and 42-44 lack an inventive step under PCT Article 33(3) as being obvious over Kruger in view of Bergen (5768875).

Kruger essentially teaches the invention as discussed previously, but fails to specifically teach combining fibers to wrap around the core, then twisting them in a specific manner, which Bergen teaches. It would have been obvious to one of ordinary skill to twist the yarns as taught as obvious so as to form the yarn as taught.

Claims 1-48 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.